

AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph beginning at line 13 of page 12 as follows:

Figure 2 illustrates the transmit processor 18 and numerical processor 20 in greater detail. The illustration assumes N transmit antennas 14 transmitting N transmit signals to $N = M$ mobile terminals 16. Numerical processor 20, as previously described, processes the information signals S_1 , S_2 and S_3 to form the set of transmit signals, T_1 , T_2 and T_3 that results in unwanted signal cancellation at each mobile terminal 16. Numerical processor 20 comprises a set of Infinite Impulse Response (IIR) IIR-filters 30 and an array 32 of Finite Impulse Response (FIR) FIR-filters 34. Transmit processor 18 includes, in addition to the numerical processor 20, a channel estimator 36 and a matrix calculator 38.

Please amend the paragraph beginning at line 3 of page 15 as follows:

The transmit signal may be further filtered to restrict transmission bandwidth and up-sampled and converted to continuous time signals. The transmit signals, denoted as T_1 , T_2 , and T_3 in the illustration, are output by the transmit processor 18 and coupled to corresponding base stations 12, which may be base transceiver stations (BTSs). A modulator 22 in each BTS modulates the input transmit signal onto an RF carrier signal provided by a RF generator 24, which is amplified by a suitable RF power amplifier (PA) 26 to make the transmit signals (i.e., T_1 , T_2 , or T_3) discussed above suitable for transmission. Since IIR, FIR and bandwidth-restriction filtering are all linear processes, they may be carried out in any order. Generating T_1 , T_2 , and T_3 in this manner causes the combination of transmit signals to cancel differently at each mobile terminal 16, such that each mobile terminal 16 receives only its desired signal.